Answers to Coursebook exercises

3 Place value, ordering and rounding

Exercise 3.1 Multiplying and dividing decimals mentally

1 **a** 1.6 **b** 3.6 **c** 5.6 **d** 5.4 **e** 6
f 0.3 **g** 0.36 **h** 0.66 **i** 2.4 **j** 1.8

2 **a** 20 **b** 30 **c** 50 **d** 30 **e** 600
f 40 **g** 300 **h** 400 **i** 200 **j** 300

3 C, D, I, K (0.015); A, F, H, J (0.15); B, G, L (1.5); E (15)

4 **a** D **b** B **c** C **d** D

5 **a** 0.12 **b** 1.35 **c** 0.072 **d** 0.15 **e** 0.055
f 30 **g** 9 **h** 5 **i** 7 **j** 40

6 The bottom is 0.12, not 1.2; he wrote the answer with only one decimal place. Answer = 50

7 **a** 200 **b** 120 **c** 300 **d** 40

8 **a** **i** 0.8 **ii** 1.6 **iii** 2.4 **iv** 3.2 **v** 4 **vi** 4.8
b Larger

9 **a** **i** 120 **ii** 60 **iii** 40 **iv** 30 **v** 24 **vi** 20
b Smaller

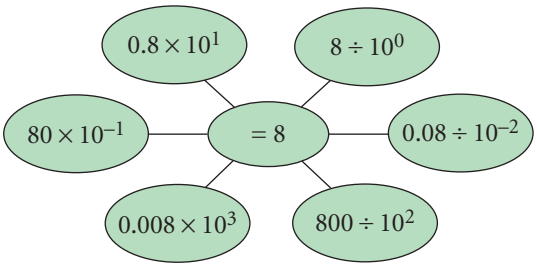
Exercise 3.2 Multiplying and dividing by powers of 10

1 **a** 1300 **b** 7800 **c** 240 **d** 85 500
e 65 **f** 8000 **g** 17 **h** 0.8
i 0.085 **j** 0.45 **k** 0.032 **l** 1.25

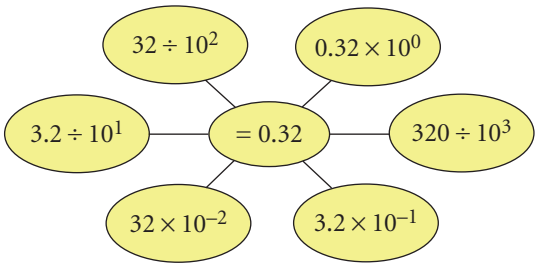
2 **a** 2.7 **b** 0.45 **c** 0.36 **d** 0.017
e 0.08 **f** 0.0248 **g** 9 **h** 2.5
i 1800 **j** 47 600 **k** 70 **l** 8.5

3 Do not tell anyone the secret!

4 **a**



b



5 **a** **i** 400 **ii** 40 **iii** 4 **iv** 0.4 **v** 0.04 **vi** 0.004
b Smaller

6 **a** **i** 0.12 **ii** 1.2 **iii** 12 **iv** 120 **v** 1200 **vi** 12 000
b Larger

Unit 3 Answers to Coursebook exercises

Exercise 3.3 Rounding

1 **a** 4.8 **b** 8.79 **c** 0.477 **d** 0.97 **e** 3.5998 **f** 18.350

2 **a** 25.497 **b** 25.5 **c** 25.496 72 **d** 25.4967 **e** 25.50 **f** 25.496 723 8

3 **a** 100 **b** 46 000 **c** 18.7 **d** 0.09 **e** 0.79 **f** 1.41

4 **a** D **b** C **c** B **d** D

5 **a** 4510 **b** 5000 **c** 4509.0 **d** 4509 **e** 4500 **f** 4509.030

6 96 000

7 0.4 g

8 298 000 000 m/s

9 **a** **i** 16 **ii** 16.1 (3 s.f.) **b** **i** 700 **ii** 713 (3 s.f.)
c **i** 40 **ii** 42.6 (3 s.f.) **d** **i** 80 **ii** 67.2 (3 s.f.)

Exercise 3.4 Order of operations

1 **a** 20 **b** 19 **c** 7 **d** −12 **e** −2
f 8 **g** 24 **h** 17 **j** 100 **k** 50

2 **a** = **b** < **c** > **d** < **e** < **f** >

3 **a** ×, 12 **b** ✓ **c** ×, −3

4 **a** **i** She subtracted first; she should have multiplied first. **ii** 17
b **i** She multiplied by 2 after working out the brackets; she should have squared the 5. **ii** 50
c **i** She did not work out the value of the divisor. **ii** 8

5 No. Oditi forgot that $5b$ means 5×3, not 53. Shen did not use BIDMAS rules for working out the term in brackets. Shen added $a + 5$ before the multiplication $5b$. Answer = 38

6 **a** 22 **b** 64 **c** 36 **d** 72

End-of-unit review

1 **a** 2.1 **b** 6 **c** 0.63 **d** 0.36 **e** 1
f 20 **g** 70 **h** 300 **i** 60 **j** 500

2 **a** 0.16 **b** 0.45 **c** 0.088 **d** 0.1 **e** 0.0016
f 4 **g** 0.7 **h** 4 **i** 5 **j** 80

3 **a** **i** 0.4 **ii** 0.8 **iii** 1.2 **iv** 1.6 **v** 2
b Larger

4 **a** **i** 150 **ii** 75 **iii** 50 **iv** 37.5 **v** 30
b Smaller

5 **a** 900 **b** 3700 **c** 240 **d** 5.55 **e** 0.075
f 534 **g** 2 **h** 1 **i** 0.62 **j** 76

6 No. Check students' examples.

7 **a** 2.8 **b** 11.86 **c** 0.555 **d** 0.30 **e** 0.1235 **f** 112.000
g 100 **h** 230 **i** 0.65 **j** 0.02 **k** 1.00 **l** 1.0

8 **a** 4000 **b** 3900 **c** 3890 **d** 3893 **e** 3893.0
f 3893.0 **g** 3893.01 **h** 3893.010 **i** 3893.0096 **j** 3893.009 56

9 **a** 4 **b** 33 **c** 37 **d** 20 **e** 11
f −1 **g** 10 **h** 14 **j** 25 **k** 0

10 **a** 16 **b** 38 **c** 121 **d** 490